Climate Action Initiative
BC AGRICULTURE & FOOD

FARM ADAPTATION INNOVATOR PROGRAM | PROJECT SUMMARY

Grazing Project Leading to Greener Pastures for Climate Adaptation

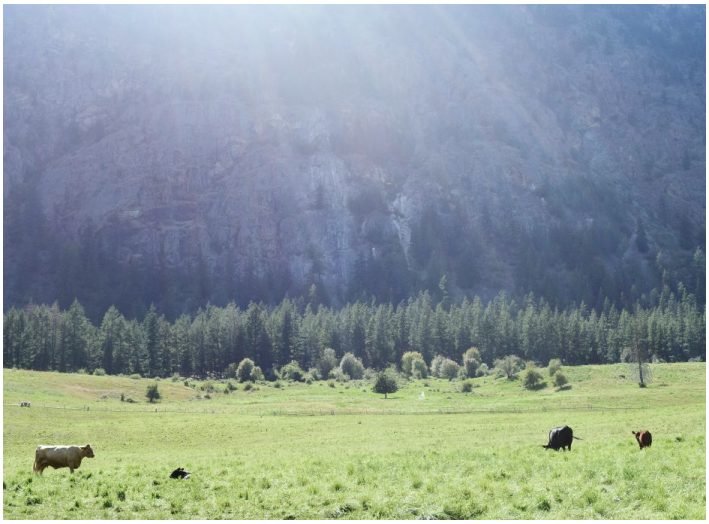
Ranchers in the BC Interior are participating in a multi-year project to evaluate the potential for management-intensive grazing systems to improve the resilience of rangelands and pastures in the face of climate change.

Hotter and drier summer conditions and reduced winter snowpack are already becoming more common in the Central Interior. This trend is expected to continue with climate change, along with more frequent extreme precipitation events. As a result, grazing lands may become vulnerable to water stress, soil erosion and decreased productivity.

Management-intensive grazing involves planned grazing and rest periods for pastures, often using higher livestock density and electric fences to achieve grazing objectives. In this case, the objective is to retain moisture levels in soils and to improve the diversity and productivity of plants, as this is likely to enhance resilience in the face of dry and drought conditions.

PROJECT	*Using Management-Intensive Grazing for Adapting to & Mitigating Climate Change*
LOCATION	*Central Interior*
COMPLETION	*Spring 2017*
PROJECT LEAD	*Thompson Rivers University*
FUNDING PARTNERS	*Agriculture and Agri-Food Canada, BC Ministry of Agriculture, Natural Sciences & Engineering Research Council of Canada*
OTHER PARTNERS	*BC Cattlemen's Association, Grasslands Conservation Council, producer co-operators*

The project, led by Dr. Lauchlan Fraser (professor of Natural Resource Sciences and Biology at Thompson Rivers University) in cooperation with the BC Cattlemen's Association, uses field-based data and remote sensing to measure and monitor range and pasture health. Project researchers are testing for indicators of sustainable grasslands, including soil carbon, soil moisture availability, plant diversity and productivity.



> *"We are trying to determine how different grazing practices can increase the health of soils.*

Samples are being taken from areas where management-intensive grazing is used, as well as more traditionally managed range and irrigated hay fields. "We are trying to determine how different grazing practices can increase the health of soils, not only through carbon sequestration but also through water holding capacity, and the diversity of the plant community," says Fraser. The research team is collaborating with seven ranches spread throughout the Interior, from Kamloops to Williams Lake.

"Management-intensive grazing is a relatively new practice to this area and there has not been a lot of local science and measurement around it," says David Zirnhelt, who ranches near Williams Lake. "We need to have this research to demonstrate the value of this practice to ranchers."

In addition to supporting resilience to climate change, altering land management practices to increase the amount of carbon stored in the soil means removing it from the atmosphere and reducing greenhouse gases.

"It's helpful for us to calibrate the amount of carbon in the soil as a surrogate for soil health," Zirnhelt explains. "Our best hope to facilitate positive change or to minimize damage is keeping the soil covered and soil processes healthy. That will give us more moderate soil temperatures and a healthier plant community."

Getting project results and information into the hands of ranchers is a central element of the project. Ranchers have already shown a keen interest at farm field days and workshops held in cooperation with the BC Cattlemen's Association and the Grasslands Conservation Council of BC. Findings are also being shared through the project website: *http://grazingmgtandclimatechange.wordpress.com*

Projects like this are part of the work being delivered by the BC Agriculture & Food Climate Action Initiative (CAI). CAI develops tools and resources to assist BC farmers and ranchers with adapting to impacts of climate change. CAI's Farm Adaptation Innovator Program engages directly with producers and local partners, providing funding for piloting, demonstration and knowledge transfer around farm level adaptation.

www.BCAgClimateAction.ca

The BC Agriculture & Food Climate Action Initiative was launched in 2008 by the BC Agriculture Council to enable a proactive and pan-agriculture approach to climate change issues. The Climate Action Initiative is currently supported by the BC Agricultural Research & Development Corporation and the Investment Agriculture Foundation of BC with funding provided by Agriculture and Agri-Food Canada and the BC Ministry of Agriculture through Growing Forward 2*, a federal-provincial-territorial initiative.*

Photos in this handout are courtesy of Lauch Fraser and Sierra Rae.